

# CAT IN THE IMAGE

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## Abstract

In this poster, we visually describe a method that, roughly speaking, allows us to represent a digital binary  $nD$  image by a homotopy operator which connect in a strong way the object and its homology. This technique allows to use advanced computational tools from CAT (Computational Algebraic Topology) into the discrete and combinatorial context of the  $nD$  digital image. This philosophy of representing a digital image into an algebraic format has its origins in classical topological methods as Effective Homology and Discrete Morse Theory.

**keywords:** Computational Algebraic Topology, Digital Image, Digital Volume.

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